

MARK3 (C-16): sc-5698

BACKGROUND

MARK3 (MAP/microtubule affinity-regulating kinase 3), also known as C-TAK1 (Cdc25C-associated protein kinase 1), EMK-2 (ELKL motif kinase 2), protein kinase STK10 or serine/threonine-protein kinase p78, is a 753 amino acid peripheral membrane protein that phosphorylates Cdc25C on Serine 216 and is ubiquitously expressed in various human tissue and cell lines. Existing as six alternatively spliced isoforms, MARK3 belongs to the Ser/Thr protein kinase family and the protein kinase superfamily. MARK3 has been suggested to mediate the binding of the 14-3-3 proteins through its kinase activity and acts as a negative regulator of mitosis. The gene encoding MARK3 maps to human chromosome 14q32.3 and mouse chromosome 12 F1.

REFERENCES

- Ogg, S., et al. 1994. Purification of a serine kinase that associates with and phosphorylates human Cdc25C on serine 216. *J. Biol. Chem.* 269: 30461-30469.
- Sanchez, Y., et al. 1997. Conservation of the Chk1 checkpoint pathway in mammals: linkage of DNA damage to Cdk regulation through Cdc25. *Science* 277: 1497-1501.
- Peng, C.Y., et al. 1997. Mitotic and G₂ checkpoint control: regulation of 14-3-3 protein binding by phosphorylation of Cdc25C on serine-216. *Science* 277: 1501-1505.
- Peng, C.Y., et al. 1998. C-TAK1 protein kinase phosphorylates human Cdc25C on serine 216 and promotes 14-3-3 protein binding. *Cell Growth Differ.* 9: 197-208.
- Dalal, S.N., et al. 1999. Cytoplasmic localization of human Cdc25C during interphase requires an intact 14-3-3 binding site. *Mol. Cell. Biol.* 19: 4465-4479.
- Chen, L., et al. 1999. Association of Chk1 with 14-3-3 proteins is stimulated by DNA damage. *Genes Dev.* 13: 675-685.
- Dequiedt, F., et al. 2006. New role for hPar-1 kinases EMK and C-TAK1 in regulating localization and activity of class IIa histone deacetylases. *Mol. Cell. Biol.* 26: 7086-7102.

CHROMOSOMAL LOCATION

Genetic locus: MARK3 (human) mapping to 14q32.3; Mark3 (mouse) mapping to 12 F1.

SOURCE

MARK3 (C-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of MARK3 of human origin.

STORAGE

Store at 4° C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-5698 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

MARK3 (C-16) is recommended for detection of MARK3 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000); non cross-reactive with Emk.

MARK3 (C-16) is also recommended for detection of MARK3 in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for MARK3 siRNA (h): sc-43649, MARK3 siRNA (m): sc-60087, MARK3 shRNA Plasmid (h): sc-43649-SH, MARK3 shRNA Plasmid (m): sc-60087-SH, MARK3 shRNA (h) Lentiviral Particles: sc-43649-V and MARK3 shRNA (m) Lentiviral Particles: sc-60087-V.

Molecular Weight of MARK3: 87 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

RESEARCH USE

For research use only, not for use in diagnostic procedures.



Try **MARK3 (G-11): sc-365461** or **MARK3 (G-7): sc-376115**, our highly recommended monoclonal alternatives to MARK3 (C-16).